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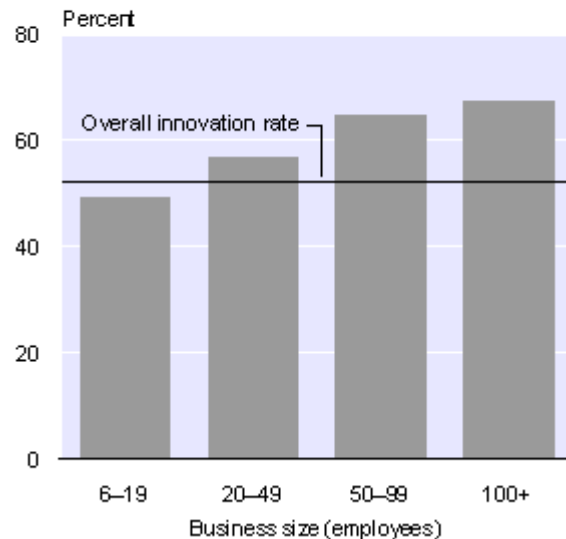
Business Operations Survey

2005

Highlights

- **Seventeen percent of New Zealand businesses had export sales** during their last financial year.
- **Eighteen percent of New Zealand businesses reported sales related to tourism** during their last financial year.
- **Fifty-two percent of New Zealand businesses engaged in innovation** over the past two years.
- **Over 40 percent of New Zealand businesses indicated they planned more than one year ahead** when setting goals.
- **Forty-four percent of New Zealand businesses undertake systematic assessment of the skills gaps and training needs of their employees.**

Innovation Rate
By business size
Last two financial years at August 2005



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There is a companion Media Release published – [Business Operations Survey: 2005](#).

Commentary

Business Operations Survey

The Business Operations Survey (BOS) replaces the former Innovation and Business Practices surveys. It collects additional information on a wide range of business practices and behaviours that may have some impact on business performance. The survey has been developed by Statistics NZ in conjunction with the Ministry of Economic Development (MED) and the Ministry of Research, Science and Technology (MoRST).

This is the first release of Business Operations Survey highlights by Statistics NZ. Further papers focusing on additional areas of interest covered by the survey will be published over the next 12 months. A more detailed report on innovation in New Zealand will be published in late 2006 and a further detailed report will be published by MED at a later date, using business practices-related data from the survey.

Guide to interpreting the data

There are a number of issues to consider when assessing the BOS results. The results from the survey are subject to statistical error (sampling and non-sampling). Given the nature of the data collected, there are additional non-statistical limitations on the level of accuracy that can be expected from the survey. Records may not be kept in the form required for the survey and some estimation may be required.

While the survey has been designed to encompass content formerly measured by the Innovation and Business Practices surveys, there are differences in population coverage and definitions. These changes were necessary in order to have a population coverage encompassing all previous ones and also to reflect evolving international guidelines in the collection of some data, such as innovation. This should be kept in mind when drawing comparisons between data collected in these earlier surveys. Please refer to the Technical notes for further details.

Business operations

Export sales

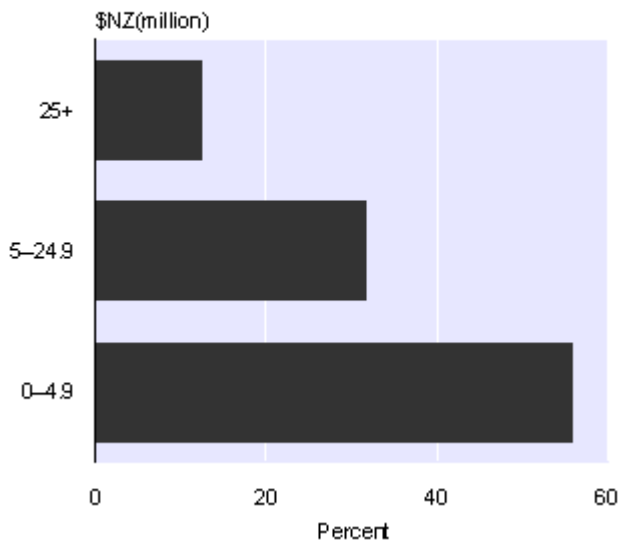
Seventeen percent of businesses had export sales in their last financial year. This represents over 5,800 New Zealand businesses. Fifty-six percent of those exporting businesses had export sales of less than \$5 million.

The most export-intensive industry was manufacturing, in which 41 percent of businesses were exporters. These businesses made up 39 percent of all exporting businesses. The next most export-intensive industry was agriculture, forestry and fishing, in which 32 percent of businesses were exporters, accounting for 17 percent of all exporting businesses.

The survey found that 5 percent of businesses entered new export markets during their last financial year.

Export Sales

Last financial year at August 2005



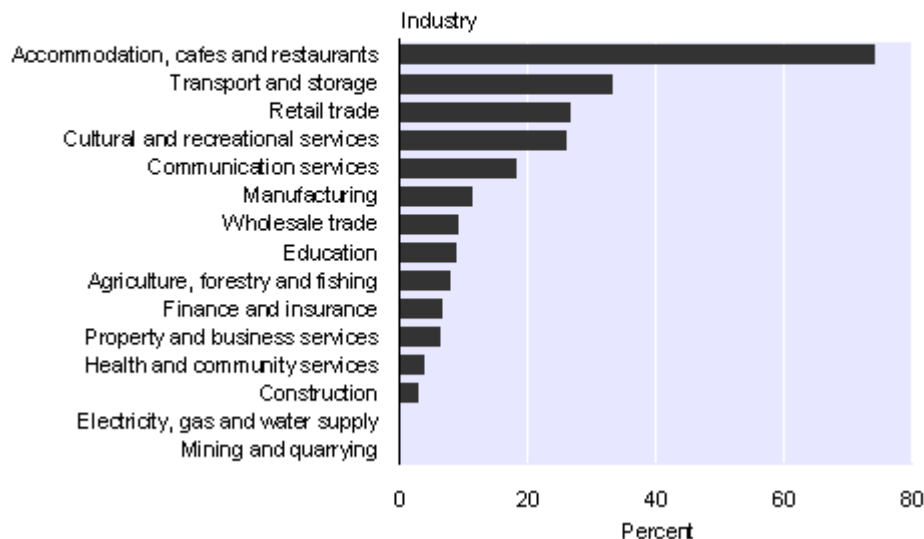
Tourism sales

The accommodation, cafes and restaurants industry had the highest proportion of businesses with tourism-related sales during their last financial year (74 percent). In the transport and storage, retail trade, and cultural and recreational services industries, more than a quarter of businesses had tourism-related sales.

Business with Tourism Sales

By industry

Last financial year at August 2005



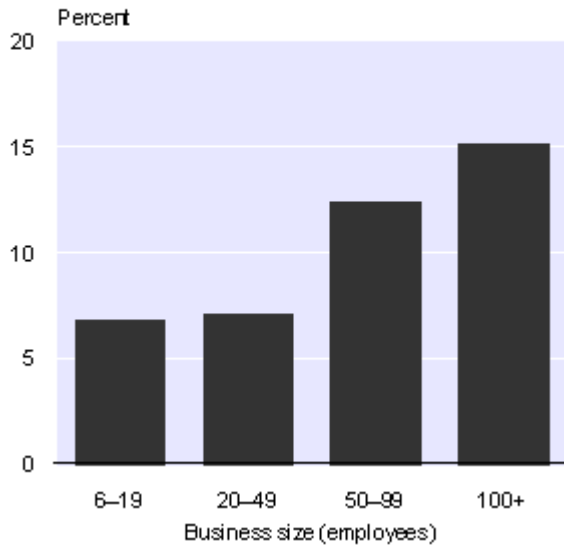
Research and development

Businesses can engage in a number of activities that give rise to innovation, including research and development (R&D). Overall, 8 percent of businesses indicated that they undertook or funded R&D activities in their previous financial year. The proportion of businesses undertaking or funding R&D increases with business size. Of all industry groups, the manufacturing industry had the highest proportion (17 percent) of businesses undertaking or funding R&D.

Research and Development Activity

By business size

Last financial year at August 2005



R&D statistics are covered in detail in the [Research and Development Survey](#), run jointly by Statistics New Zealand and MoRST.

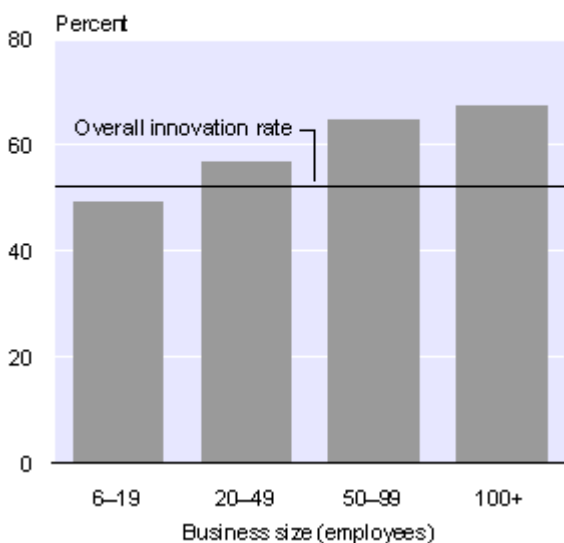
Innovation rates

Survey results show that 52 percent of businesses engaged in innovation over the past two years. The innovation rate rises with business size. Sixty-eight percent of businesses with 100 or more employees engaged in innovation, compared with 50 percent of businesses with 6-19 employees. The industries with the highest innovation rates were finance and insurance (68 percent) and manufacturing (65 percent).

Innovation Rate

By business size

Last two financial years at August 2005



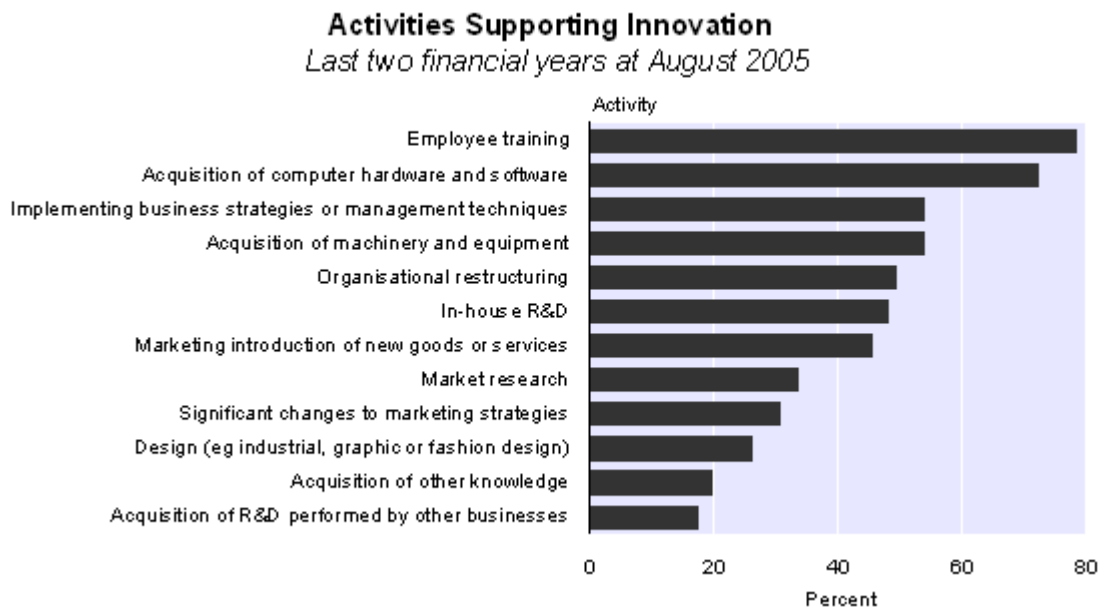
The overall rate is made up of four distinct types of innovation, although an individual business can engage in more than one of these categories, as shown in the following table:

Type of innovation	Proportion of businesses undertaking (percent)
Goods or services	30
Operational processes	29
Organisational or managerial processes	31
Marketing methods	29

The highest innovation rate in any of these categories was goods or services innovation in the manufacturing industry (49 percent).

Innovation activities

Among innovating businesses, the most common activity undertaken in support of innovation was employee training (78 percent), followed by the acquisition of computer hardware and software (72 percent).



Factors hampering innovation

Lack of management resources was rated as the biggest constraint on innovation. Nineteen percent of businesses rated this as limiting innovation to a high degree, while 43 percent rated the impact as medium or low.

Factors Hampering Innovation

By degree
Last two financial years at August 2005



Comparisons with previous innovation surveys

Comparisons of this 'overall innovation rate' to that of previous innovation surveys can be misleading, as there have been changes in the way innovation is measured, driven by emerging international understandings of innovation activity and how to measure it.

The 2003 Innovation Survey was designed to measure innovative activities in accordance with the *OECD Oslo Manual* (1996), which focused on technological product and process (TPP) innovation. The *OECD Oslo Manual* was updated in 2005 to include a widened scope, in order to measure both the previous TPP scope, as well as non-technological or intangible aspects of innovation. The Business Operations Survey was designed to reflect the new, wider scope.

A high-level summary of the changes made is included here for indication purposes, but all innovation results in this publication relate to the new measurement frameworks.

Change	Business Operations Survey 2005	Innovation Survey 2003(1)
Innovation scope	Goods or services Operational processes Organisational or managerial processes Marketing methods	Goods or services Operational processes
Reference period	two years	three years
Population coverage	Businesses with six employees or more 15 ANZSIC industry groups	Businesses with 10 employees or more 11 ANZSIC industry groups
Overall innovation rate	52 percent(2)	44 percent

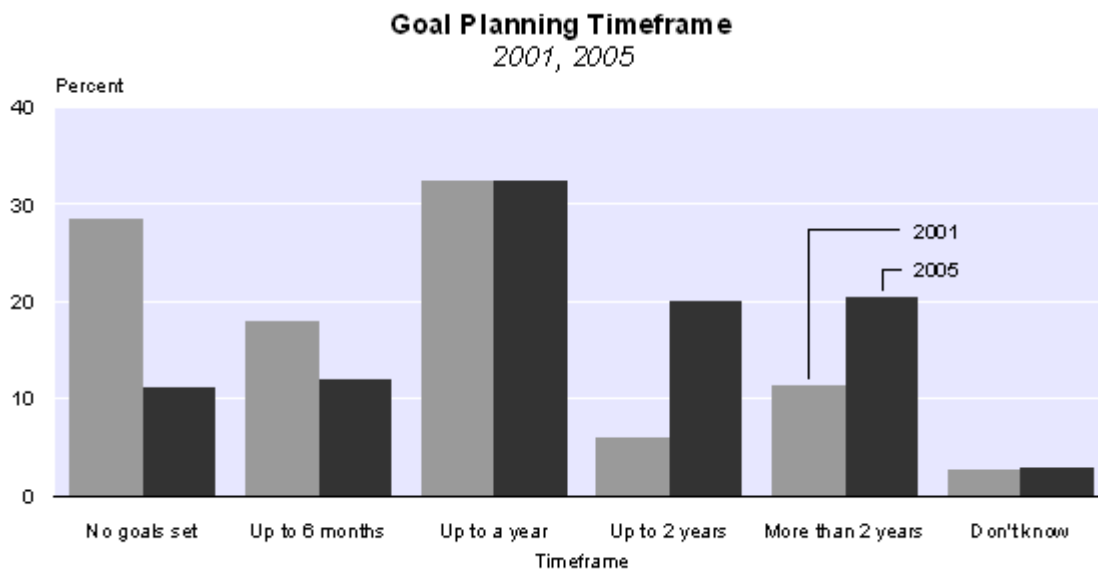
(1) Detail of Innovation Survey methodologies can be found in the [Innovation in New Zealand 2003](#) report on Statistics NZ's website.

(2) The 2005 innovation rate corresponding to the TPP scope used in 2003 was 42 percent, although this is not directly comparable to the 2003 figure due to the coverage changes above.

Business planning to set goals

Thirty-three percent of businesses stated that they planned up to a year ahead, the most common planning horizon when setting goals. Eleven percent of businesses indicated no goals were set for their business. Business planning horizons were previously examined in the 2001 Business Practices Survey. Comparison of results between surveys indicates businesses are planning further ahead. Over 40 percent of businesses indicated they planned more than one year ahead when setting goals, up from 18 percent in 2001.

Larger businesses were more likely to set long-term goals. Forty-eight percent of businesses with 100 or more employees set goals more than two years ahead, compared with only 17 percent of businesses with 6–19 employees.



Note: 2001 data sourced from the Statistics New Zealand Business Practices Survey 2001.

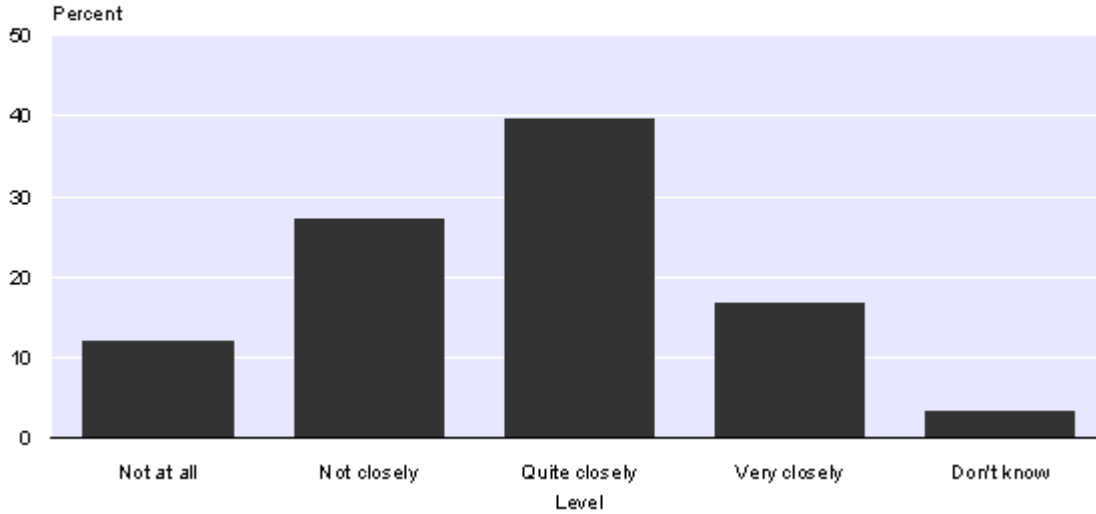
Benchmarking

Benchmarking the goods or services that a business produces against those of their rivals is an effective method of ensuring that the range and prices being offered are competitive. Overall, 17 percent of New Zealand businesses monitored their competitors' goods or services very closely, while 12 percent indicated that they did not monitor them at all.

Larger businesses were more likely to monitor competitors' goods or services than smaller businesses. Thirty-seven percent of businesses with 100 or more employees monitored competitors' goods or services very closely, compared with 15 percent of businesses with 6–19 employees.

Monitoring of Competitors' Goods or Services

*By level of monitoring
2005*



Almost half of businesses compared their performance or processes systematically with other businesses, mostly with other New Zealand businesses in the same industry.

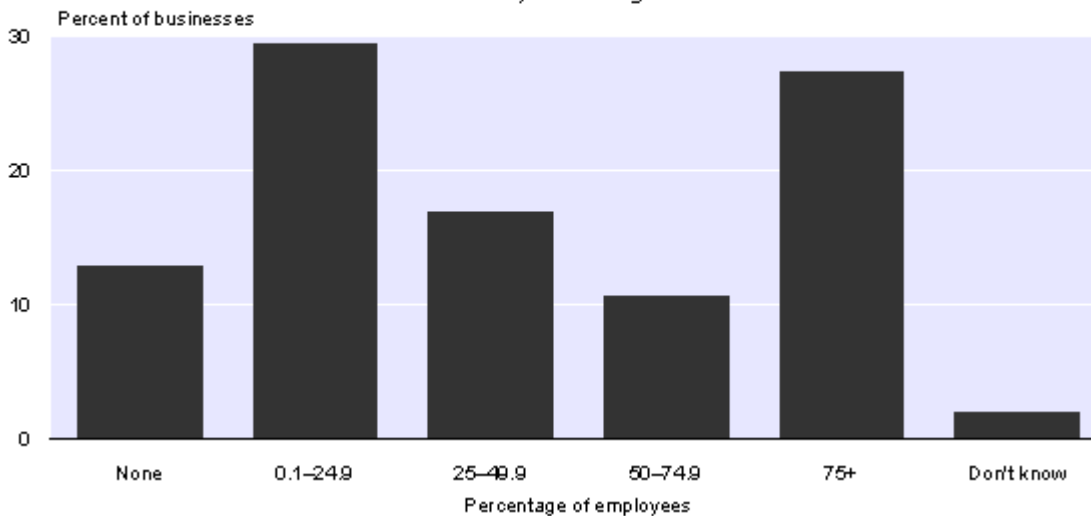
Employee practices

Training employees is one way of ensuring that a business has the appropriate mix of skills relevant to its activities. Forty-four percent of surveyed businesses signalled that they assessed the skills gaps and training needs of their employees in a systematic way.

Overall, 27 percent of businesses indicated that over 75 percent of their employees had received some form of training during their last financial year. Only 13 percent of businesses had no employees that participated in training during their last financial year.

Employee Training

*By proportion of employees
Last financial year at August 2005*



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Technical notes

Survey background

The New Zealand Government has a range of initiatives aimed at increasing New Zealand's economic growth rate above the OECD average and sustaining this higher growth performance over a number of years. In order for New Zealand's economic performance to be measured against these aims, a large range of data on a variety of measures needs to be collected.

Due to this increase, Statistics NZ has developed an integrated, modular survey – the Business Operations Survey (BOS) – as a way to collect the required information, while minimising the reporting load for New Zealand businesses. The survey has been designed to include up to three 'modules' and will be run annually from 2005.

The main objective of the survey is to collect information on the operations of New Zealand businesses in order to quantify business behaviour, capacity and performance. In addition, each module in the survey has its own specific objectives. The modules included in the Business Operations Survey 2005 and their objectives are listed below.

Module A: Business Performance Module

The objective of this module is to provide a longitudinal series of information relating to business performance. The information required can be grouped into two main categories:

- financial performance measures
- business environment measures.

The purpose of collecting financial measures of business performance is to measure and monitor business performance, and to relate the impact of potential enablers on this performance. An important element of these financial measures is their longitudinal dimension, which will enable changes over time to be analysed. This will assist in the development of models aimed at investigating causal relationships. As well as traditional measures of performance such as turnover and profitability, there is also a desire to collect information on such areas as export intensity. The purpose of collecting environmental information is to analyse any relationships between the environment in which a business operates and the results it achieves.

Module B: Innovation Module

The objective of this module is to provide information on the characteristics of innovation in New Zealand private sector businesses, to enable the development of policy that will facilitate innovation and to understand the dynamics of innovative businesses. The module replaces Statistics NZ's Innovation Survey, last run in 2003. The module has been designed in accordance with OECD guidelines. It aims to provide an understanding of the contribution of all aspects of innovation to the New Zealand economy by measuring:

- levels of firm innovation
- how and why firms collaborate with other firms and institutions in order to innovate
- factors affecting the ability of firms to innovate
- outcomes of innovation for firms, including its effect on exports.

Module C: Business Practices Module

This module covers data last collected in the Business Practices Survey 2001. The module collects information on a range of management practices and behaviours that may have some impact on a business's performance.

Data collection

The BOS 2005 was a postal survey. Initial contact was made to key and/or complex businesses in the survey by telephone, before the mail out, to determine the appropriate person(s) within the business to whom the survey questions could be directed. For all other businesses, the survey form was directed to the 'Managing Director'. The survey was posted out between August and October 2005 and collected information for the last financial year for which the business had data available at that point.

Target population

The target population for the BOS 2005 was live enterprise units on Statistics NZ's Business Frame at the population selection date which:

- were economically significant enterprises (those that have an annual GST turnover figure of greater than \$30,000)
- had six or more employees
- had been operating for one year or more
- were classified to Australian and New Zealand Standard Industrial Classification – New Zealand Version 1996 (ANZSIC96) codes listed as in scope in List 1 below
- were private enterprises as defined by New Zealand Institutional Sector 1996 Classification (NZISC96) listed in List 2 below.

An enterprise is defined as a business or service entity operating in New Zealand such as a company, partnership, trust, government department or agency, state-owned enterprise, university, or self-employed individual.

The final estimated population size for the survey was 34,760 enterprises.

List 1 – ANZSIC96 Codes in Scope

In scope

ANZSIC96 code – description

- A – Agriculture, Forestry and Fishing
- B – Mining and Quarrying
- C – Manufacturing
- D – Electricity, Gas and Water Supply
- E – Construction
- F – Wholesale Trade
- G – Retail Trade
- H – Accommodation, Cafes and Restaurants
- I – Transport and Storage
- J – Communication Services
- K – Finance and Insurance
- L – Property and Business Services
- N – Education
- O – Health and Community Services
- P91 – Motion Picture, Radio and Television Services
- P93 – Sport and Recreation

Out of scope

- M – Government Administration and Defence
- P92 – Libraries, Museums and the Arts
- Q – Personal and Other Services.

List 2 – NZISC96 Codes in Scope

NZISC96 code – description

1111 – Private Corporate Producer Enterprises
1121 – Private Non-Corporate Producer Enterprises
1211 – Producer Boards
2211 – Private Registered Banks
2221 – Private Other Broad Money (M3) Depository Organisations
2291 – Private Other Depository Organisations nec
2311 – Private Other Financial Organisations Excluding Insurance and Pension Funds
2411 – Private Insurance and Pension Funds.

Sample design

The sample design was a two-level stratification according to ANZSIC industry, and employment size groups. This information was obtained using enterprise ANZSIC industry and employment information from Statistics NZ's Business Frame.

The first level of stratification was into 33 ANZSIC industry groupings. Within each of the ANZSIC groups there is a further stratification by employment size group. The four employment size groups used in the sample design are:

- 6–19 employees (small)
- 20–29 employees (medium 1)
- 30–49 employees (medium 2)
- 50 or more employees (large).

The two medium groups have been amalgamated and the large size group further broken down for this publication, as larger businesses were of particular interest for some of the results.

Measurement errors

The BOS 2005 results are subject to measurement errors, including both non-sample and sample errors. These errors should be considered when analysing the results from the survey.

Non-sample errors

Non-sampling errors include mistakes by respondents when completing questionnaires, variation in the respondents' interpretation of the questions asked, and errors made during the processing of the data. In addition, the survey applied imputation methodologies to cope with non-respondents. Statistics NZ adopts procedures to minimise these types of error, but they may still occur and are not quantifiable.

Given the nature of the data collected, there are limitations on the level of accuracy that can be expected from the survey. Many respondents do not keep separate account of their innovation expenditure or records may not be kept in the form required for the survey, and estimation may be required. Even though detailed descriptions of what should and should not be included as innovation were provided on the questionnaire, there may still be differences in interpretation of what constitutes innovation and the nature of any co-operative arrangements with other businesses involved in the innovation process.

Sample errors

The achieved relative sample error (using total revenue as a numeric design variable) was 5.9 percent.

Response rate

The BOS 2005 targeted an 80 percent response rate. The survey achieved an actual response rate of 80.1 percent, which represented 5,595 businesses.

Non-response and imputation

Unit non-response

Unit (or complete) non-response occurs when units in the sample do not return the questionnaire. The initial selection weight of the remaining units in the stratum was adjusted to account for the unit non-response (no item non-response imputation would occur for the units that did not return the questionnaire).

Item non-response

Item (or partial) non-response is when units return the questionnaire but some questions are not answered. No item non-response imputation was carried out for units that did not answer 60 percent or more of the questions they were required to answer (based on questionnaire routing rules). The respondents that did not meet this criterion were classified as unit non-responses and the weights were adjusted accordingly.

Imputation

Nearest neighbour imputation was used to impute answers for unanswered categorical questions. Weighted mean imputation was used to impute answers for unanswered numerical questions.

Definitions

General definitions

The BOS was designed to collect data in accordance with the following definitions and terminology:

ANZSIC: Australian and New Zealand Standard Industrial Classification System – New Zealand Version 1996.

Business Frame: A register of all businesses operating in New Zealand.

Employees: The number of employees is defined by an enterprise's rolling mean employment (RME) count. RME is a twelve-month moving average of the monthly employment count (EC) figure. The EC is obtained from taxation data.

Enterprise: A business or service entity operating in New Zealand. It can be a company, partnership, trust, estate, incorporated society, producer board, local or central government organisation, voluntary organisation or self-employed individual.

Goods and Services Tax (GST): Respondents are asked to exclude GST if possible in the financial figures provided in the questionnaire. If they did not, Statistics NZ takes out GST to make all enterprises comparable.

Last financial year: For the purposes of this survey, this refers to the last financial year for which the business had results available as at August 2005, as entered on the questionnaire.

Innovation definitions

The Innovation module of the survey is designed to collect innovation data in accordance with the definitions contained in the *OECD Oslo Manual* (2005). The *OECD Oslo Manual* is available from: www.oecd.org/. The following definitions relate specifically to the innovation module:

Innovation: For the purpose of this survey innovation is broadly defined. It includes the development or introduction of any new or significantly improved activity for the business. This includes products, processes and methods that the business was the first to develop and those that have been adopted from other organisations.

For the BOS 2005 an innovation is defined as the development or introduction of new or significantly improved:

- *Goods or services* – this does not include the selling of new goods or services wholly produced and developed by other businesses
- *Operational processes* – that is, methods of producing or distributing goods or services
- *Organisational / managerial processes* – that is, significant changes in the business's strategies, structures or routines
- *Marketing methods* – this includes sales and marketing methods intended to increase the appeal of goods or services for specific market segments, or to gain entry to new markets.

Co-operative arrangement: Active participation with another organisation or individual in activities for the purpose of innovation.

- This includes collaborative arrangements for the purpose of innovation.
- Each party should bring exclusive knowledge or expertise to the co-operation.
- Partners do not necessarily gain immediate commercial benefit from the co-operation.
- This does not include only contracting-out work, where there is no active co-operation.

More information

For more information, follow the [link](#) from the Technical notes of this release on the Statistics NZ website.

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Timing

Timed statistical releases are delivered using postal and electronic services provided by third parties. Delivery of these releases may be delayed by circumstances outside the control of Statistics NZ. Statistics NZ accepts no responsibility for any such delays.

Next release ...

Innovation in New Zealand: 2005 will be released in late 2006.

Tables

The following tables can be downloaded from the Statistics New Zealand website in Excel 97 format. If you do not have access to Excel 97 or higher, you may use the [Excel file viewer](#) to view, print and export the contents of the file.

List of tables

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3. Research and development and international presence, last financial year at August 2005
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